

REMARKS

The present application has been reviewed in light of the Office Action dated April 9, 2003. Claims 1-12, 14-16, 20-46, 48-59, 61, 69-101, 103, 107, 110-132, 135-151, 160-187, 189, 199-205, and 207-210 are presented for examination, of which Claims 1, 31, 71, 87, 113, 132, 162, 175, and 210 are in independent form. Claim 206 has been cancelled, without prejudice or disclaimer of subject matter, and new Claims 207-210 have been added to provide Applicant with a more complete scope of protection. Claims 1-11, 14-16, 20-46, 48-59, 69-101, 111-132, 135-151, 160-187, 189, and 199-205 have been amended as to formal matters and/or to define Applicant's invention more clearly. Favorable reconsideration is requested.

Applicant gratefully acknowledges the indication that Claims 87-101, 103, 107, 110, 113-131, 160, 161, and 204 have been allowed, and that Claims 8-12, 14-16, 20-22, 26, 27, 29, 30, 33, 34, 38-46, 48-50, 54, 55, 57, 58, 84-86, 178, 183, 186, and 187 include allowable subject matter would be allowable if rewritten in proper independent form. For at least the reasons discussed below, Applicant respectfully declines to rewrite the latter group of claims in independent form at this time.

The Office Action states that the abstract of the disclosure is objected to for certain informalities. In response, the abstract submitted on December 17, 2002, has been replaced with the Substitute Abstract on page 3 of the present Amendment. Applicant submits that the Substitute Abstract overcomes the informalities noted in section 2 of the Office Action. Accordingly, withdrawal of the objection to the abstract is respectfully requested.

The Office Action states that Claims 1-12, 14-16, 20-46, 48-59, 61, 69, 70,

132, 135-151, 162-187, 189, 199-203, 205, and 206 are rejected under 35 U.S.C. § 112, ¶ 2, as being indefinite. (Claim 206 has been canceled, thus rendering its rejection moot.) Applicant has carefully reviewed and amended Claims 1, 31, 132, 162, 175, and 203, as deemed necessary, with special attention to the points raised in section 3 of the Office Action. Applicant submits that there is proper antecedent basis for the limitations of those amended claims, and respectfully requests withdrawal of the indefiniteness rejections.

The Office Action states that Claims 1-7, 23-25, 28, 31, 32, 35-37, 51-53, 56, 59, 69-83, 111, 112, 175-177, 179-182, 184, 185, and 189 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,400,681 (Bertin '681) in view of U.S. Patent No. 5,940,372 (Bertin '372); and that Claim 61 is rejected under § 103(a) as being unpatentable over Bertin '681 in view of Bertin '372, and further in view of U.S. Patent No. 6,038,625 (Ogino et al.). Applicant respectfully traverses the rejections, and submits that independent Claims 1, 31, 71, 175, and 210, together with the claims dependent thereon, are patentably distinct from the cited prior art for at least the following reasons.

An aspect of the present invention set forth in Claim 1 is directed to a communication method for communicating on a network that includes communication devices. The communication devices perform communications in a connected mode or a non-connected mode. According to the method, for at least one of the communication devices, to effect a transmission in the connected mode, an information operation is performed during which the communication device broadcasts, on the network, an item of information representing a passband necessary for the transmission in the connected mode. The method also includes a

passband allocation operation, which allocates the passband for connected-mode transmissions based on the item of information, and which is performed in coordination with all communication devices using the information operation. A second allocation operation of the method allocates, for non-connected-mode transmissions, all or part of the passband not allocated for the connected-mode transmissions, for each communication device that is to effect a transmission in the non-connected mode. The second allocation operation is performed independently from other communication devices in the network. To avoid congestion on the network, the method further includes an adjustment operation, which adjusts the allocated passband.

One of the notable features of Claim 1 is that a passband for connected-mode transmissions is allocated based on an item of information representing a passband necessary for transmission in a connected mode. All or part of the passband not used for connected-mode transmissions is allocated for non-connected-mode transmissions. The passband allocation may be adjusted to avoid congestion on the network.

Bertin '681 is understood to relate to a system for determining an optimal path within a packet switching network, to ensure a specified quality of service and to minimize the use of network resources and a connection time between an origin and a destination node. Bertin '372 is understood to relate to a process for selecting an optimal path for transmission of packets without bandwidth reservation in communication systems that support both bandwidth-reserved and non-bandwidth-reserved connections.

Applicant submits that a combination of Bertin '681 and Bertin '372, assuming

such combination would even be permissible, would fail to teach or suggest a communication method that includes "a passband allocation operation of allocating the passband for connected-mode transmissions based on the item of information, wherein the passband allocation operation is performed in coordination with all communication devices using the information operation," and "a second allocation operation of allocating for non-connected-mode transmissions all or part of the passband not allocated for the connected-mode transmissions, for each communication device that is to effect a transmission in the non-connected mode, wherein the second allocation operation is performed independently from other communication devices in the network," and "an adjustment operation of adjusting the allocated passband to avoid congestion on the network," as recited in Claim 1.

Bertin '372 is believed to be silent regarding the problem of congestion on a network, and therefore fails to disclose or suggest a way to control such congestion.

Bertin '681 is understood to disclose that congestion on a network is controlled by: (1) enforcing bandwidth reservation agreements between the network's users and the network, which are established when a call set up; and (2) estimating an actual bandwidth and adjusting a reservation, if necessary, during the life of a connection (see column 9, lines 25-31). Applicant submits, however, that Bertin '681 fails to disclose or suggest adjusting a bandwidth allocated to non-connected-mode transmissions to control congestions on a network, as claimed in Claim 1. Support for the passband allocation adjustment feature of Claim 1 is set forth in the specification as follows: For non-connected-mode traffic (elastic traffic), the passband is adjusted (e.g., reduced) by decrementing a number of packets to be sent "spec\_CP" (see paragraph 0308 of the

substitute specification submitted on December 17, 2002, and step 1221 in Fig. 12), if the packets were not all transmitted in a primary time interval (due to congestion). For connected-mode traffic, when determining an availability of a path for establishing a connection, a source node adjusts bandwidth by varying a size of the packets with a load on the transmission path.

According to the method of Claim 1, a communication device in the network allocates a passband for non-connected-mode transmissions independently from the other communication devices in the network and without the need for coordinating therewith. The allocation is based only on the available passband, which is not used for connected-mode transmissions. Thus, the passband allocated for non-connected-mode transmissions by a given communication device is not known from the other communication devices in the network. Both Bertin '681 and Bertin '372 are believed to be silent regarding this feature.

Further, according to Claim 1, a traffic load in connected-mode transmissions is known by all the other communication devices in the network by way of the information operation, which makes it possible to update the load tables of the other communication devices in the network. Both Bertin '681 and Bertin '372 are believed to be silent regarding this feature.

Accordingly, Applicant submits that Claim 1 is patentable over the cited art, and respectfully requests withdrawal of the rejection under 35 U.S.C. § 103(a). Independent Claims 31 and 210 include features similar to those discussed above, and therefore are believed to be patentable for at least the same reasons as discussed above.

In regard to the rejection of independent Claim 71, Applicant respectfully submits that Claim 71 is patentable over the cited prior art for at least the same reasons as

independent Claim 87, which has been allowed. More specifically, the method of Claim 71 corresponds to the apparatus of Claim 87, and thus Claim 71 is respectfully submitted to be allowable.

In regard to the rejection of independent Claim 175, this claim has been amended to incorporate the subject matter of canceled Claim 206, which was not rejected based on prior art. Accordingly, Applicant respectfully submits that amended Claim 175 is patentable over the prior art of record.

The other rejected claims in this application, as well as the newly added dependent claims, depend from one or another of the independent claims discussed above, and therefore are submitted to be patentable for at least the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, individual consideration or reconsideration, as the case may be, of the patentability of each claim on its own merits is respectfully requested.


The present Amendment After Final Action is believed clearly to place this application in condition for allowance and, therefore, its entry is believed proper under 37 C.F.R. § 1.116. Accordingly, entry of this Amendment, as an earnest effort to advance prosecution and reduce the number of issues, is respectfully requested. Should the Examiner believe that issues remain outstanding, it is respectfully requested that the Examiner contact Applicant's undersigned attorney in an effort to resolve such issues and advance the case to issue.

In view of the foregoing amendments and remarks, Applicant respectfully requests favorable reconsideration and early passage to issue of the present application.

CONCLUSION

Applicant's undersigned attorney may be reached in our New York Office by telephone at (212) 218-2100. All correspondence should continue to be directed to our address listed below.

Respectfully submitted,

  
Attorney for Applicant  
Lock See Yu - JAHVERS  
Registration No. 38,667

FITZPATRICK, CELLA, HARPER & SCINTO  
30 Rockefeller Plaza  
New York, New York 10112-3801  
Facsimile: (212) 218-2200

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